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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,606	04/30/2001	Bradford E. Billet	41592-00005	4770
22334	7590	08/11/2005	EXAMINER	
PETER F WEINBERG GIBSON DUNN AND CRUTCHER LLP SUITE 4100 1801 CALIFORNIA STREET DENVER, CO 80202			HOLMES, MICHAEL B	
		ART UNIT		PAPER NUMBER
		2121		
DATE MAILED: 08/11/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/846,606	BILLET ET AL.	
	Examiner	Art Unit	
	Michael B. Holmes	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 30 April 2001.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-29 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-21 and 23-29 is/are rejected.

7) Claim(s) 22 is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 30 April 2001 is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .

5) Notice of Informal Patent Application (PTO-152)

6) Other: *Detailed Office Action*.



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Examiner's Detailed Office Action

1. This Office Action is responsive to application 09/846,606, filed April 30, 2001.
2. Claims 1-29 have been examined.

Drawings Objection(s)

3. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c) “Whenever the nature of the subject matter sought to be patented admits of illustration by a drawing without its being necessary for the understanding of the subject matter and the applicant has not furnished such a drawing, *the examiner will require its submission within a time period of not less than two months from the date of the sending of a notice thereof.*” No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d).

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. The invention as disclosed in claims 1-21 & 23-29 are rejected under 35 U.S.C. 101 as being non-statutory subject matter. While applicant's invention is directed towards technological arts. Applicant's claim language is not limited to practical applications. In particular, examiner has found the claimed subject matter, to be one of three exclusions recognized, outside the statutory category of invention, an abstract idea. Examiner contends that applicant's invention as claimed relates a computational model or a mathematical manipulation of a function or equation, as such, a process that merely manipulates an abstract idea or performs a purely mathematical algorithm is nonstatutory despite the fact that it might inherently have some usefulness. In *Sarkar*, 588 F.2d at 1335, 200 USPQ at 139, the court explained why this approach must be followed:

No mathematical equation can be used, as a practical matter, without establishing and substituting values for the variables expressed therein. Substitution of values dictated by the formula has thus been viewed as a form of mathematical step. If the steps of gathering and substituting values were alone sufficient, every mathematical equation, formula, or algorithm having any practical use would be per se subject to patenting as a "process" under 101. Consideration of whether the substitution of specific values is enough to convert the disembodied ideas present in the formula into an embodiment of those ideas, or into an application of the formula, is foreclosed by the current state of the law.

Furthermore, for such subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea or mathematical algorithm in the technological arts.

See Alappat, 33 F.3d at 1543, 31 USPQ2d at 1556-57 (quoting *Diamond v. Diehr*, 450 U.S. at 192, 209 USPQ at 10). *See also* Alappat 33 F.3d at 1569, 31 USPQ2d at 1578-79 (Newman, J., concurring) (“unpatentability of the principle does not defeat patentability of its practical applications”) (citing *O ’Reilly v. Morse*, 56 U.S. (15 How.) at 114-19). A claim is limited to a practical application when the method or system, as claimed, produces a concrete, tangible and useful result; i.e., the method recites a step or act of producing something that is concrete, tangible and useful. *See* AT &T, 172 F.3d at 1358, 50 USPQ2d at 1452. *See* MPEP § 2106(IV) Applicant is advised to make the appropriate corrections in an attempt to gain patentability. The claimed invention as a whole must accomplish a practical application. That is, it must produce a “useful, concrete and tangible result.” *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. Remember, the claims define the property rights provided by a patent, and thus require careful scrutiny. Therefore, it is not enough to set forth invention in the specification. The claims must also reflect the scope and breath of applicant’s invention.

6. Therefore, claims 1-21 & 23-29 are rejected under 35 USC § 101.
7. It should be noted that if the claimed subject matter were amended to recite the invention of which, being implemented on a computer or processor or computer-implemented method or process or whatever word(s) or phrase(s) the written description of the specification recites for that feature(s) of the computer. The rejection under 35 USC § 101 would be withdrawn.

Claim Objection

8. Claim 22 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only, and/or cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim 22 has not been further treated on the merits.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-10 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by *Overby, Jr. et al.* (USPN 6,016,503).

Regarding claims 1 & 29. *Overby, Jr. et al.* teaches a method of prediction [*see* Abstract & Fig. 3, C 7, L 65 to C 8, L 11], comprising: (a) identifying a set of formulae [*see* C 6, L 41-48 & Fig. 3, C 7, L 65 to C 8, L 11]; (b) establishing a pattern based upon said formulae for points in time when an event occurred which pattern is independent of the event [*see* C 6, L 27-48]; (c) calculating a set of values based on historic data for said points in time [*see* C 2, L 30-41 & C 6, L 41-48]; (d) comparing said pattern to said set of values at said points in time to establish a relationship [*see* C 7, L 18-32]; and (e) extending said relationship into the future to predict an occurrence of the event [*see* Fig. 3, C 7, L 65 to C 8, L 11], (a) developing a set of

formulae that are mathematical functions of elapsed time but independent of the occurrence of the event [*see* C 6, L 27-48]; (b) establishing a mathematical relationship between past occurrence of such event and a combination of one or more said formulae involving elapsed time [*see* C 6, L 41-48 & Fig. 3, C 7, L 65 to C 8, L 11]; and (c) extending said relationship into the future to predict the occurrence of the event [*see* Fig. 3, C 7, L 65 to C 8, L 11].

Regarding claim 2. *Overby, Jr. et al.* teaches one or more algorithms [*see* Fig. 2, item 54].

Regarding claim 3. *Overby, Jr. et al.* teaches comparing includes repeatedly offsetting the points in time until the relationship can be established for an acceptable number of points in time [*see* C 7, L 52-64].

Regarding claim 4. *Overby, Jr. et al.* teaches said event is a parameter upon which one or more other events depend, and the method of claim 1 is performed for each such parameter [*see* C 6, L 15-27].

Regarding claim 5-10. *Overby, Jr. et al.* teaches said step of comparing includes comparing a pattern and a set of values at a first point in time until establishing said relationship [*see* C 7, L 18-32]; extending the relationship to a second point in time and again comparing said pattern and a set of values at said second point in time until establishing said relationship for both points in time [*see* Fig. 3, C 7, L 65 to C 8, L 11]; and continuing to extend the relationship to additional points in time and comparing said pattern and sets of values to establish a relationship that

is acceptably close for an acceptable number of points in time, offsetting the points in time that are compared by a period of time equal to the time between two of said points in time, at least some of points in time are consecutive, considering an additional point in time when said event occurs, after initially performing the method, in order to establish a further relationship, considering additional points in time when said event occurs, after initially performing the method and after each said additional point in time, in order to establish further and more accurate relationships, presented in a graph of n dimensions, wherein one axis represents elapsed time, one axis represents the occurrence of the event, and the other n-2 axes represent the numeric relationships [see Fig. 3, C 7, L 65 to C 8, L 11].

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Overby, Jr. et al.* (USPN 6,016,503) in view of *Brown* (USPN 5,978,738).

The *Overby, Jr. et al.* reference has been discussed above and does not disclose the limitation of claim 11. However, *Brown* discloses the limitation of claim 11.

Regarding claim 11. *Brown* discloses applying said method to predictions of weather [*see Abstract*]. It would have been obvious at the time the invention was made to a persons having ordinary skill in the art to combine *Overby, Jr. et al.* with *Brown*, because severe weather conditions can arise quite suddenly, with potentially great catastrophic consequences in financial and human cost. To avoid or minimize injury and damage from sudden, violent weather phenomena, it is desirable to be able to predict such occurrences [*see C 1, L 15-19*].

13. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Overby, Jr. et al.* (USPN 6,016,503) in view of *Hauwiller et al.* (USPAP 2001/0016788).

The *Overby, Jr. et al.* reference has been discussed above and does not disclose the limitation of claim 12. However, *Hauwiller et al.* discloses the limitation of claim 12.

Regarding claim 12. *Hauwiller et al.* entering into a computer geographic locations associated with parameters relating to an event, using a geographical positioning system [*see 0026*]. It would have been obvious at the time the invention was made to a persons having ordinary skill in the art to combine *Overby, Jr. et al.* with *Hauwiller et al.*, because creating variable rate application maps allow the user to vary the dispensing rate of dispensing materials at various field locations depending upon different field conditions at different field locations, with respect to a geographic information system for maintaining geographic field data and other data for site specific farming applications [*see 0002*].

14. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Overby, Jr. et al.* (USPN 6,016,503) in view of *Bostian et al.* (USPN 6,322,973).

The *Overby, Jr. et al.* reference has been discussed above and does not disclose the limitation of claims 13-16. However, *Bostian et al.* discloses the limitation of claims 13-16.

Regarding claims 13-16. *Bostian et al.* discloses method to predict disease, disease is human disease, disease is animal disease and disease is plant disease [see C 3, L 58, to C 4, L 06 & C 5, L 03-24 & C 8, L 45-60]. It would have been obvious at the time the invention was made to a persons having ordinary skill in the art to combine *Overby, Jr. et al.* with *Bostian et al.*, because due to the limitations inherent in conventional approaches, there remains a need for improved techniques for identifying the function of potential target genes and gene products. Moreover, useful targets have been identified, there also remains a need for improved screening techniques to identify potential modulators of these target genes and gene products [see C 1, L 37-43].

15. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Overby, Jr. et al.* (USPN 6,016,503) in view of *Peake et al.* (USPN 4,097,594).

The *Overby, Jr. et al.* reference has been discussed above and does not disclose the limitation of claims 17-18. However, *Peake et al.* discloses the limitation of claims 17-18.

Regarding claims 17 & 18. *Peake et al.*, discloses plant disease is agricultural disease, agricultural disease is crop disease [see C 1, L 6-40 & C 7, L 36-38]. It would have been obvious at the

time the invention was made to a persons having ordinary skill in the art to combine *Overby, Jr. et al.*, with Peake et al., because (1) a method for controlling fungal disease in plants which comprises applying a selected mono-5-substituted-3-chloro-4H-1,2,6-thiadiazin-4one, to the locus where control is desired, (2) antifungal compositions for control of fungal disease in plants, and (3) for control of fungi [see C 1, L 34-40].

16. Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Overby, Jr. et al.* (USPN 6,016,503) in view of *Lange et al.* (USPAP 2003/0115128).

The *Overby, Jr. et al.* reference has been discussed above and does not disclose the limitation of claims 19-21. However, *Lange et al.* discloses the limitation of claims 19-21.

Regarding claims 19-21. *Lange et al.* discloses predict economic activities, economic activities include interest rates [see 0402 & 0558-0561], stock prices equity, bonds, indices and other financial products [see 0567-0577, 0816 & 0835]. It would have been obvious at the time the invention was made to a persons having ordinary skill in the art to combine *Overby, Jr. et al.* with *Lange et al.*, because the rapid increase in usage and popularity of the public Internet, the growth of electronic Internet-based trading of securities has been dramatic. In the first part of 1999, online trading via the Internet was estimated to make up approximately 15% of all stock trades. This volume has been growing at an annual rate of approximately 50%. High growth rates are projected to continue for the next few years, as increasing volumes of Internet users use online trading accounts [0004].

17. Claims 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Overby, Jr. et al.* (USPN 6,016,503) in view of *Bakalash et al.* (6,408,292).

The *Overby, Jr. et al.* reference has been discussed above and does not disclose the limitation of claims 23-28. However, *Bakalash et al.* discloses the limitation of claims 23-28.

Regarding claims 23-28. *Bakalash et al.* discloses customer relations management, optimizing one or more facets of interactions with customers including all associated practices, managing electronic commerce, electronic commerce is through a website, optimize formatting of a website, optimize said website by one or more of predicting customer needs and purchasing volumes, determining price sensitivity of customers, and performing cost/benefit analyses [see C 8, L 61 to C 9, L 33 & C 21, L 13 to C 22, L 32]. It would have been obvious at the time the invention was made to a persons having ordinary skill in the art to combine *Overby, Jr. et al.* with *Lange et al.*, because the ability to act quickly and decisively in today s increasingly competitive marketplace is critical to the success of organizations. The volume of information that is available to corporations is rapidly increasing and frequently overwhelming. Those organizations that will effectively and efficiently manage these tremendous volumes of data, and use the information to make business decisions, will realize a significant competitive advantage in the marketplace [see C1, L 19-26].

Correspondence Information

18. Any inquires concerning this communication or earlier communications from the examiner should be directed to Michael B. Holmes, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-3686 or facsimile transmission (571) 273-3686 or email Michael.holmesb@uspto.gov.

If you need to send an Official facsimile transmission, please send it to (571) 273-8300.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, Anthony Knight, may be reached at (571) 272-3687.

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

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Friday, August 05, 2005

MBH



Anthony Knight
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